

Relevance and dynamics of nutritional status in patients on maintenance dialysis

Citation for published version (APA):

Marcelli, D. (2017). *Relevance and dynamics of nutritional status in patients on maintenance dialysis*. [Doctoral Thesis, Maastricht University]. Maastricht University. <https://doi.org/10.26481/dis.20170406dm>

Document status and date:

Published: 01/01/2017

DOI:

[10.26481/dis.20170406dm](https://doi.org/10.26481/dis.20170406dm)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

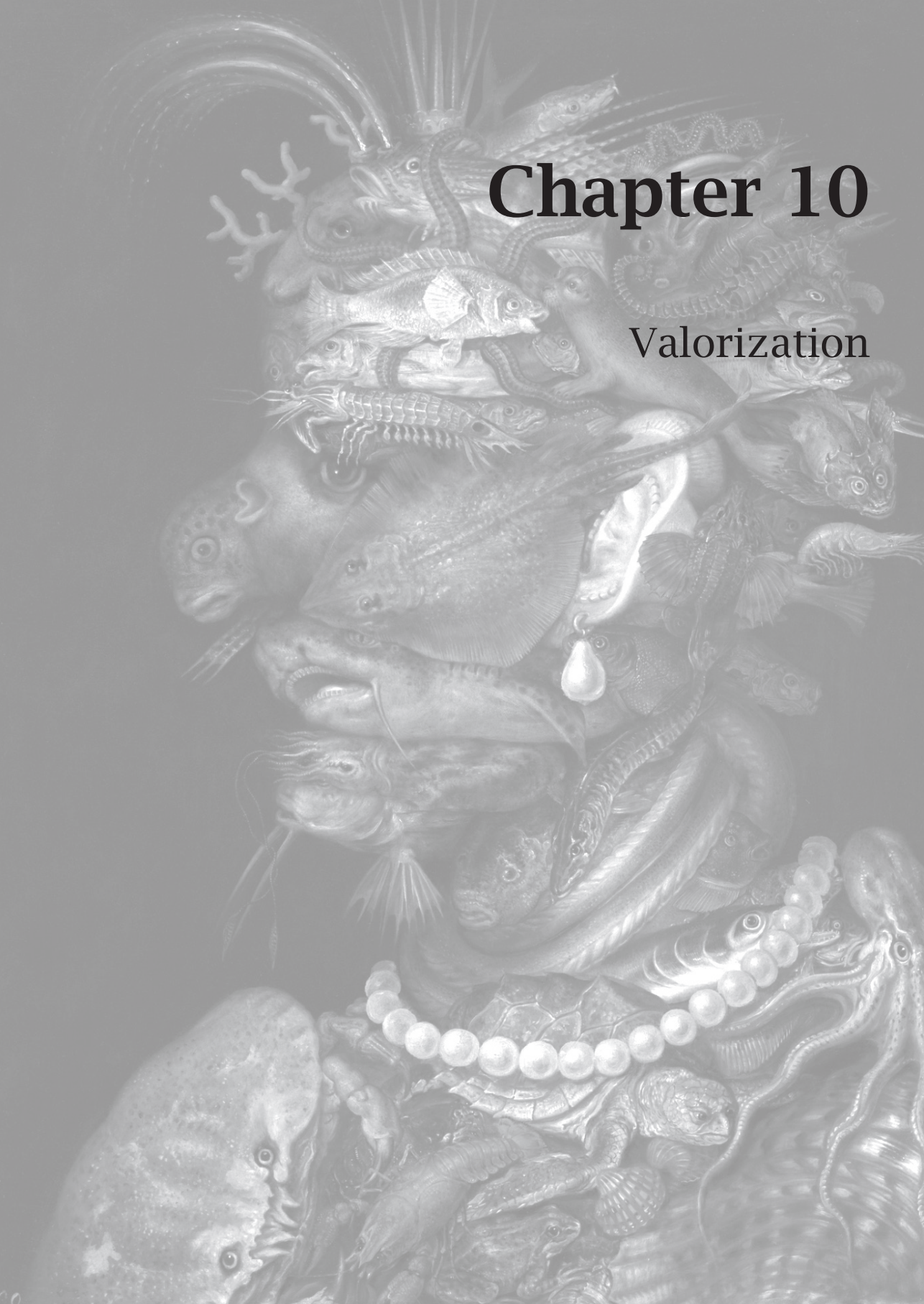
If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

Chapter 10

Valorization



Valorization

The collection of manuscripts included in this thesis highlights the high prevalence of protein-energy wasting in patients on hemodialysis and its relationship with mortality. Additionally, the dynamics of the development of malnutrition during the first 30 months on dialysis treatment were clarified. Therefore, the problem of malnutrition is clear and it is likely to be at least partially responsible for the high risk of clinical complications during the follow-up, associated with a significant component of the total cost burden of the disease due to hospitalization costs.

However, in front of a clear need to improve the nutritional therapy of patients on hemodialysis, as recently stressed by Hand et al¹, in US a dietician has to follow about 150 patients and the focus is mainly on mineral and bone disorder. Dieticians spend more checking phosphate intake and compliance to phosphate binders. It is not the aim of this chapter to judge the importance of this specific complication, but the evidence that today in US the yearly pharmaceutical budget spent for mineral and bone disorder is about 30-fold higher than that of parenteral nutrition is impressive². In absence of clear data, the general opinion is that the US situation is common with many other countries.

Protein-energy wasting should be prevented, or at least detected and also followed-up after start of renal replacement therapy in a very early phase according to a judicious choice of methods discussed in this thesis, in combination with a serious nutrient intake assessment and consequent dietary advice. However, it is well known that the change of the nutritional habits is one of the hardest tasks, and requires competence, dedication and time of experience dieticians, nephrologists and dialysis

nurses. Patients have to be strictly followed-up, educated on the benefit of maintaining proper dietary standards. It is a matter of fact that patients starting dialysis after a pre-dialysis phase on low protein diet do not present major nutritional problems and are likely more compliant to dietary advices³. Patient empowerment is clearly a strong tool in the hands of nephrologists to improve the outcome of patients on dialysis, and it is expected to be very cost-effective. However, it is clear that the very limited resources in term of available dieticians will not allow an efficient realization of this strategy. But whereas in US and other countries (e.g. France, Portugal, UK) the discussion is on the limited number of renal dieticians available, at least they are mandatory members of the team taking care of dialysis patients. In other countries their presence is even considered as optional and close collaboration between dialysis and dietetic staffs remains essential to handle this challenge. Web based educational tools may become in future effective approaches, but the current generation of patients will hardly benefit.

The uncover of a progressive protein-energy wasting disease should also trigger the search for hidden foci of infection/inflammation, facilitating the earlier reclaim.

Since nutritional therapy is so important in the follow-up of renal patients before and after the initiation of renal replacement therapy, it should be an important component of the education of nephrologists, so improving the communication with renal dieticians. Quality indicators related to the regular and frequent performance of nutritional assessment and of the obtained results in term of corrected nutritional habits should be part of the follow-up of dialysis patients. Likely, this should be the next logic development as the system of reimbursement for the treatment of dialysis patients is moving to total capitation⁴, in future including also cost of hospitalization. If it is true that nutritional secondary prevention is cost effective in avoiding or

delaying certain complications requiring expensive hospitalizations, providers of dialysis care will quickly move to implement a strong nutritional follow-up and therapy in their treatment protocols.

In conclusion, the research manuscripts included in this thesis supports a change in the management of patients on dialysis, with more focus on the nutritional aspects and the implementation of therapeutical measures able to prevent or correct in early phase protein-energy wasting. More research is required to define which therapy is more effective, and appropriately designed randomized clinical trials are urgently needed.

References

- 1 Hand RK, Steiber A, Burrowes J. Renal dietitians lack time and resources to follow the NKF KDOQI guidelines for frequency and method of diet assessment: results of a survey. *J Ren Nutr* 2013; 23: 445-9.
- 2 Ikizler TA, Franch HA, Kalantar-Zadeh K, Ter Wee PM, et al. Time to revisit the role of renal dietitian in the dialysis unit. *J Ren Nutr* 2014;24:58-60.
- 3 Vendrely B, Chauveau P, Barthe N, et al. Nutrition in hemodialysis patients previously on a supplemented very low protein diet. *Kidney Int.* 2003;63:1491-1498.
- 4 Ponce P, Marcelli D, Guerreiro A, Grassmann A, Gonçalves C, Scatizzi L, Bayh I, Stopper A, Da Silva R. Converting to a capitation system for dialysis payment--the Portuguese experience. *Blood Purif.* 2012;34(3-4):313-24.